2019 Integrated Resource Plan (IRP) Working Group Meeting #2

This narrative is intended to complement and summarize the slides from the second IRP Working Group meeting, held on March 29, 2018.

The objectives for this IRPWG meeting were to provide an overview of distributed energy resources (DERs); discuss the process for identifying uncertainties and scenarios; offer an overview of TVA's load, economics and commodities forecasts; and to obtain IRPWG input on potential uncertainties and scenarios.

Distributed Energy Resources discussion

Distributed energy resources (DERs) are used either as stand-alone power or are connected to the power distribution system to provide additional power to the grid. Solar panels, generators and power storage units are examples of DERs. TVA's DER strategic direction is to leverage the strengths of the Tennessee Valley public power model with distributed energy solutions that are economic, sustainable and flexible. TVA is partnering with local power companies and taking a deliberate, thoughtful approach to DERs.

Introduction to Uncertainties and Scenarios

The IRP will consider many views of the future to help determine how TVA can continue to provide safe, reliable energy at the lowest feasible rate; support environmental stewardship; and foster economic development in the Valley over the next 20 years. The IRP process examines a variety of economic, regulatory and market-driven scenarios (outside TVA's control) and strategies (within TVA's control) to help TVA respond to changing energy demands while continuing to provide reliable power at the lowest possible cost.

The IRPWG will provide input on scenarios first; then, soon after, on strategies. The process for building scenarios includes identifying the most impacting uncertainties; imagining plausible futures; designing scenarios; reviewing, refining and making the initial selection; and selecting the short list of scenarios.

Current Forecasts

In creating its forecast outlook, TVA uses data from a variety of public sources. TVA considers economic factors, including general growth, inflation and the population; loads, including energy and demand as well as modifiers; and commodity demand and prices, including natural gas and the national capacity mix. TVA's current forecast is for modest economic and inflation growth, flat energy and demand forecasts, and low natural gas prices that drive more gas generation.

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IRPWG Input and Discussion

TVA presented a list of proposed uncertainties, including electricity demand, market power price, natural gas prices, coal prices, solar prices, storage prices, regulations, CO2 regulation/price, distributed generation penetration, energy efficiency adoption and economic outlook (national and regional). Considering uncertainties is an important part of the process, because uncertainties can impact costs or performance of certain energy resources. The uncertainties will be used as building blocks to construct the scenarios.

Group Exercise

IRPWG members discussed the range of plausible futures, specifically considering:

- How technology is changing?
- How electricity demand is likely to change in the future?
- How customer preferences are evolving and impacting the demand for electricity?
- How the regulatory environment (regulation overall, not TVA-specific regulation) may affect the future?
- How the economy will change?

Scenarios

The IRPWG reviewed a draft list of five groups of scenarios, some with multiple variations of scenarios for a total of 10 scenarios, which are being considered for the IRP. TVA will merge information from the IRPWG brainstorming (group exercise) and TVA's early scenario work for more discussion at the April IRPWG meeting.